AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A satellite-based monitoring, measurement or data collection system comprising:

a monitoring, measurement or data collection system having a plurality of monitoring stations ~~(4)~~ for remote monitoring, measurement or data collection and for providing data, to respective computation centers ~~(3)~~, and;

a satellite system using at least one satellite ~~(2)~~ having an on-board processor for multiplexing up-link data received and broadcasting said multiplexed data in a down-link transmission;

wherein:

said up-link data received by said satellite ~~(2)~~ comprises a digital channel corresponding to a respective one of said computation centers ~~(3)~~;

said respective computation center ~~(3)~~ is connected to a down-link adapter ~~(7)~~ connected to a receiver or group of receivers ~~(6)~~; and

said down-link adapter is adapted for extracting, from said down-link transmission, said digital channel corresponding only to the said respective computation center ~~(3)~~.

2. (currently amended): A system according to claim 1, wherein each of said monitoring stations ~~(4)~~ is connected through an up-link adapter ~~(5)~~ to the satellite up-link broadcasting station ~~(1)~~.

3. (previously presented): A system according to claim 1, wherein said satellite system is a digital direct broadcast satellite system.

4. (currently amended): A system according to claim 1, wherein at least one of said monitoring stations ~~(4)~~ has at least one channel from the up-link transmission allocated thereto.

5. (currently amended): A system according to claim 4, wherein several remote channels, or several monitoring stations ~~(4)~~ are grouped together using sub-multiplexing channel capabilities of said digital direct broadcast satellite system.

6. (currently amended): A system according to claim 1, wherein a monitoring station ~~(4)~~ has a receiver for synchronizing message transmission using data extracted from said down-link channel multiplex content.

7. (currently amended): A system according to claim 1, wherein time and/or date is broadcast to said down-link adapters ~~(7)~~, and optionally to said digital direct broadcast satellite receivers ~~(6)~~.

8. (original): A down-link adapter for extracting at least one channel from a down-link transmission as claimed in claim 1.

9. (original): A down-link adapter according to claim 8 for converting data framing from said satellite down-link data channel rate to message format and/or converting data rate to rate adapted to a cyclic data rate of said monitoring, measurement or data collection system.

10. (currently amended): A down-link adapter according to claim 8 wherein said down-link adapter provides data to another adapter connected to a monitoring station ~~(4)~~.

11. (currently amended): An up-link adapter for converting signals received from a monitoring station ~~(4)~~ of a monitoring, measurement or data collection system, into signals suitable for digital up-link transmission as claimed in claim 2.

12. (currently amended): An up-link adapter according to claim 11 for converting data message format from said monitoring station ~~(4)~~ to an up-link format of said satellite system and/or converting data rate to an uplink rate adapted to said satellite system.

13. (currently amended): An up-link adapter according to claim 10 wherein said up-link adapter ~~(5)~~ receives data from another adapter such as a down-link adapter ~~(7)~~.

14. (currently amended): A method for interconnecting elements of a monitoring, measurement or data collection using a satellite system, comprising:

remote monitoring, measurement or data collection by means of a plurality of monitoring stations ~~(4)~~ and providing data to respective computation centers ~~(3)~~, and;

at least one satellite ~~(2)~~ of said system multiplexing up-link data by means of an on-board processor and broadcasting said multiplexed data in down-link transmission;

transmitting a digital channel in said up-link data to said satellite ~~(2)~~, said channel corresponding to a respective computation center ~~(3)~~, said computation center ~~(3)~~ being connected to a down-link adapter ~~(7)~~ connected to a satellite receiver or a group of satellite receivers ~~(6)~~; and

extracting from said down-link transmission, by said down-link adapter, only said digital channel corresponding to the respective computation center ~~(3)~~.

15. (currently amended): A method according to claim 14 wherein said up-link broadcasting station ~~(1)~~ performs up-link broadcasting of data received from an up-link adapter ~~(5)~~ connected thereto.

16. (previously presented): A method according to claim 14 wherein said satellite system is a digital direct broadcast satellite system.

17. (original): A method according to claim 14 wherein said broadcasting of the multiplexed data in down-link transmission is performed in time division multiplexing, TDM, mode.

18. (original): A method according to claim 14 wherein marker indexing is used in said down-link transmission as a synchronization signal.

19. (original): A method according to claim 18 wherein said synchronization is also used for sub-multiplexing up-link channels transmission.

20. (currently amended): A method for interconnecting adapters ~~(5, 7)~~ as in claim 13, wherein data is returned from a down-link adapter ~~(7)~~ to an up-link adapter ~~(5)~~ transferring time information and/or data information between said adapters ~~(5, 7)~~.

21. (previously presented): A method for use in the adapter of claim 12 wherein a data message is delayed before being put into a next frame generated at a digital direct broadcast satellite channel rate, using a frame produced faster than needed by the rate of monitoring, measurement or data collection, thus giving rise to a so-called marker frame carrying data such as timing data.

22. (previously presented): A method for use in the adapter of claim 8 wherein data related to time and/or date is/are broadcast through a digital direct broadcast satellite system and wherein a frame received at a digital direct broadcast satellite channel rate, is converted into a message at a monitoring, measurement and data collection rate with the exception of a marker frame carrying data such as timing data.

23. (original): A method according to claim 22 wherein said timing data is used for evaluating transit time or for providing time to any other unit connected thereto such as a display.

24. (original): A method according to claim 23 wherein a transit time of a message from a time instant it is transmitted from an up-link adapter until a time instant it is received by a down-link adapter through a digital direct broadcast satellite is evaluated.

25. (currently amended): A method according to claim 13 wherein a computation center ~~(3)~~ broadcasts through a digital direct broadcast satellite, to said monitoring stations ~~(4)~~ by means of an up-link adapter ~~(5)~~ incorporated therein and a monitoring station ~~(4)~~ having a down-link adapter ~~(7)~~ detects a channel specifically addressed thereto, providing data to said monitoring station, said data being usable for implementing a unicast, multicast or broadcast addressing scheme.